GRUMMAN plane news

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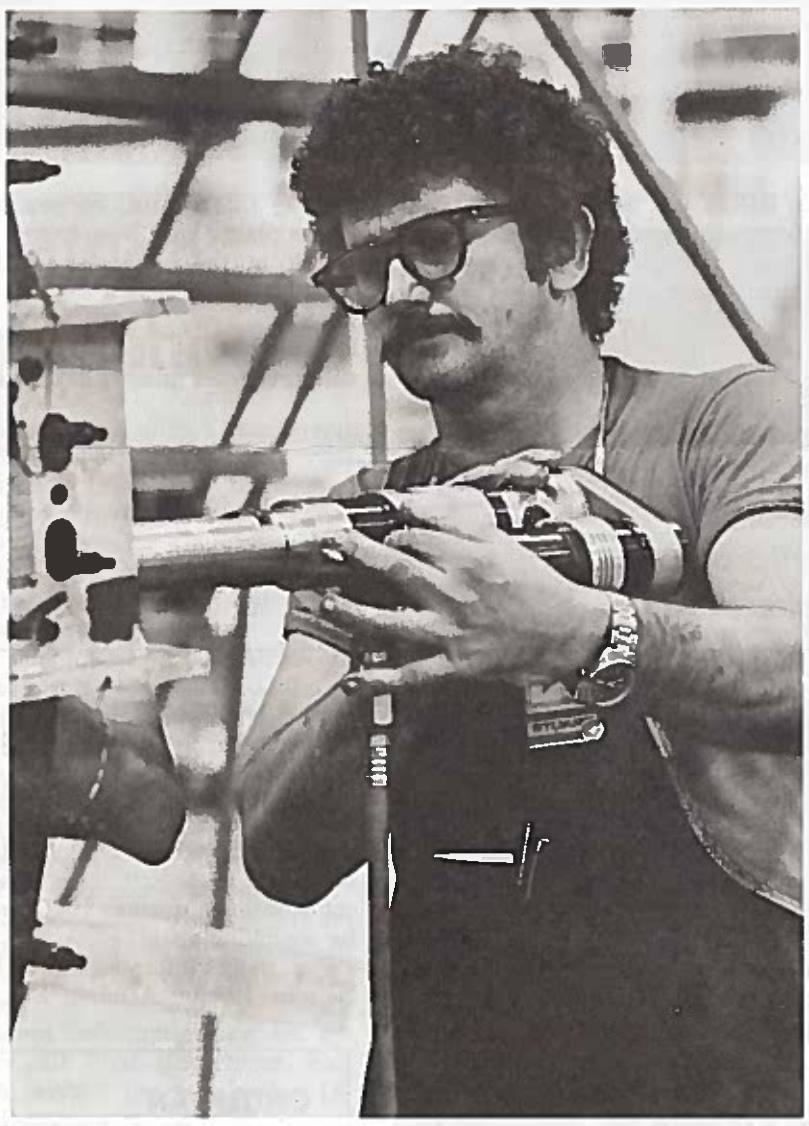
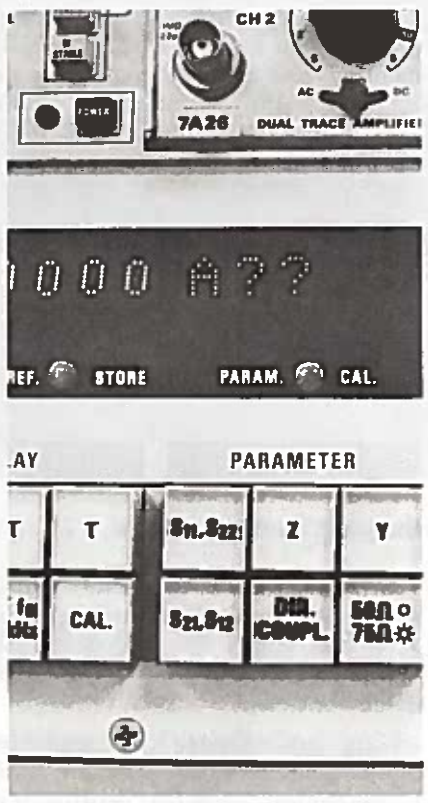


Gearing up. By September 1982, Stuart Operations will be shipping three shipsets of new DC-8 powerplants and pylons to McDonnell Douglas' facility in Tulsa, Oklahoma. *See story on page 5.*

Hundreds respond to blood appeal

- pg. 4



Big boom looms for ATE

- pg. 8

The inside story: Your pension and you

- pg. 6

Contacts can increase risks

You finally got contact lenses. But now that everyone has noticed what gorgeous orbs you have, this might be news you don't want to hear: maybe you shouldn't be wearing your contact lenses to work.

There's no substitute

"Anyone who works in a posted eye hazard area should be wearing standard eye protection," says Joe Oakes, operational supervisor of Industrial Safety and Hygiene. "Contact lenses should never be considered a substitute for safety glasses."

Some people seem to think that wearing plain, non-prescription safety glasses over their contacts is an acceptable solution, Oakes points out.

"It's a big mistake, though. Contact lenses actually increase your risk of injury in an eye hazard area," he says.

People who work with irritant chemicals are in the most danger. "If something is splashed into the eye, it can pool under the contact lens. And if the eyelid goes into spasm, it's pretty tough to get that lens out so that the eye can be flushed with water," says Oakes. "The time that's lost can make a tragic difference."

Wearing contacts in the presence of chemical fumes can be almost as bad, because the chemical can build up in back of the lens. The fumes can also cloud or damage your contacts.

Dust and particles in the air can become trapped under a lens, Oakes observes, causing injury to the cornea.

Dirty hands

"If you wear contact lenses, you know that you are supposed to handle them very carefully, and that your hands must be scrupulously clean," says Oakes. "It doesn't make sense to wear them when your hands are going to be getting dirty; you wouldn't be able to get your lenses out quickly if something happened."

At home, too

The Safety department would like you to use the same good judgement when you're off the job, too.

If you're going to be cleaning the oven, refinishing a table, painting, working on your car, or even using one of the heavy-duty spray cleaners, think twice before wearing your contact lenses.

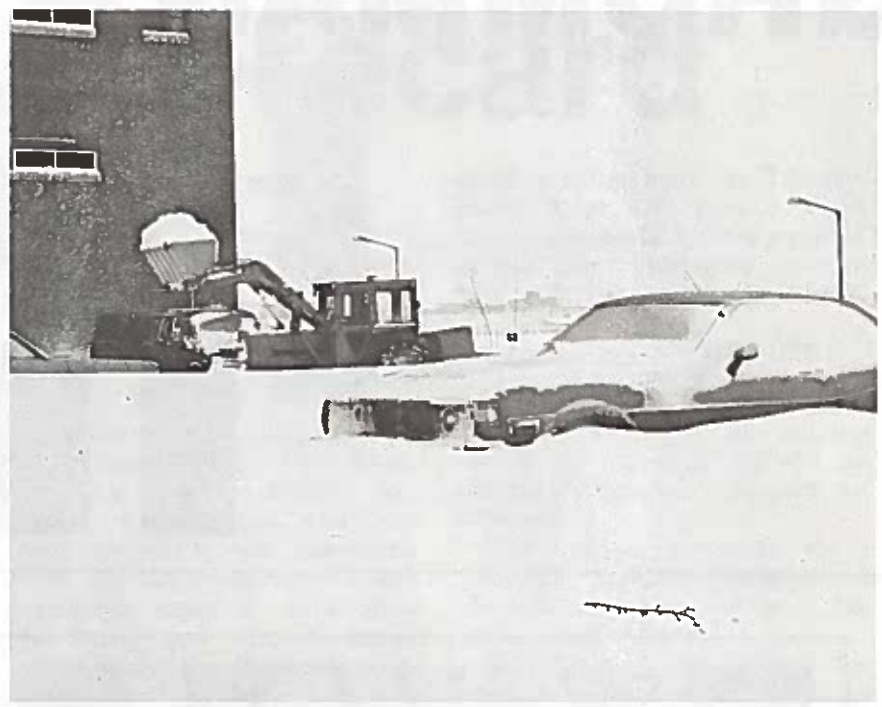
"The list of household chemicals that can cause problems is pretty long," says Oakes. "And it includes things that you might not think of as being especially hazardous: perfumes, hair spray, window cleaners, and detergents."

If you're in doubt, the Safety department urges you to skip the contacts and wear safety glasses instead. Industrial safety glasses are three millimeters thick; they are tempered, and break into small, round-edged pieces or crumble into a powdery residue when the impact is strong enough. Safety glasses are available to all Grummanites, whether or not they use them on the job.

In addition, a variety of face masks, goggles, and other protective devices are also available. There are Safety Equipment offices in all Grumman production plants.

Eye care, they care

"If you have any questions about the proper care and use of your contact lenses, your first source of help should be your eye care professional," says Oakes. "But if you're working with unfamiliar materials or think you may need special equipment, give us a call or come to one of the Safety Equipment offices. We're always ready to help you take care of your eyes."



Snuggle or shovel?

Before you start shovelling your driveway this winter, do yourself a favor and check with Grumman to see if the plants have been closed.

The phone number to call if you work in the Bethpage, Melville, Great River and Bohemia complexes is (516) 349-9400.

If you work at Calverton, call (516) 369-2266.

Both these telephone numbers will be operating from 5 a.m. on.

The following local radio stations will broadcast plant closing information.

WGBB-1240 AM — Freeport — 24 hours
WBLI-106 FM — Babylon — 24 hours
WBAB-102.3 FM — Babylon — 24 hours
WGLI-1290 AM — Babylon — starting 5 a.m.
WGSM-740 AM — Huntington — starting 7 a.m.
WALK-1370 AM — Patchogue — starting 5 a.m.
WALK-97.5 FM — Patchogue — starting 5 a.m.

Company matches donations to colleges

Colleges and universities are not immune to the financial pinch. Not only has inflation hurt these schools, but there are also fewer big contributors to college funds today.

Buck for buck

Grumman tries to foster alumni giving through its Matching Gift Program. Under this program, the company matches your donation dollar for dollar.

Gifts are eligible for matching company funds when they are made to any college — public or private — granting a two- or four-year degree. These colleges must offer an accredited program leading to an associate degree or higher. Foreign colleges and universities are also eligible as long as they offer equivalent accredited degree programs.

Contributions may be made to more than one institution, but matching limits are set at $1,000 per school, with a $10,000 total per year.

Remember that you need not be a graduate of the institution. Frequently, parents donate to colleges attended by their children or to those schools they expect their offspring to attend.

Contributions other than cash are eligible for cash matching, but will be made at the company's discretion after valuation of the employee's gift. Contributions made to alumni associations or paid as dues are not eligible for matching.

Document it

Grummanites can apply for matching funds by submitting an official receipt or letter of acknowledgement from the institution. The contribution amount and date must be included. Mail to Matching Gifts program, mail stop A24-111.

Requests for matching gifts will be fulfilled at the end of each quarter, and checks will be mailed out shortly thereafter. A grace period will extend through the end of March to permit those who made contributions during 1980 to apply for matching gifts.

For more information, call Carol Nelson, Public Affairs, Ext. 6622.

GRUMMAN plane news

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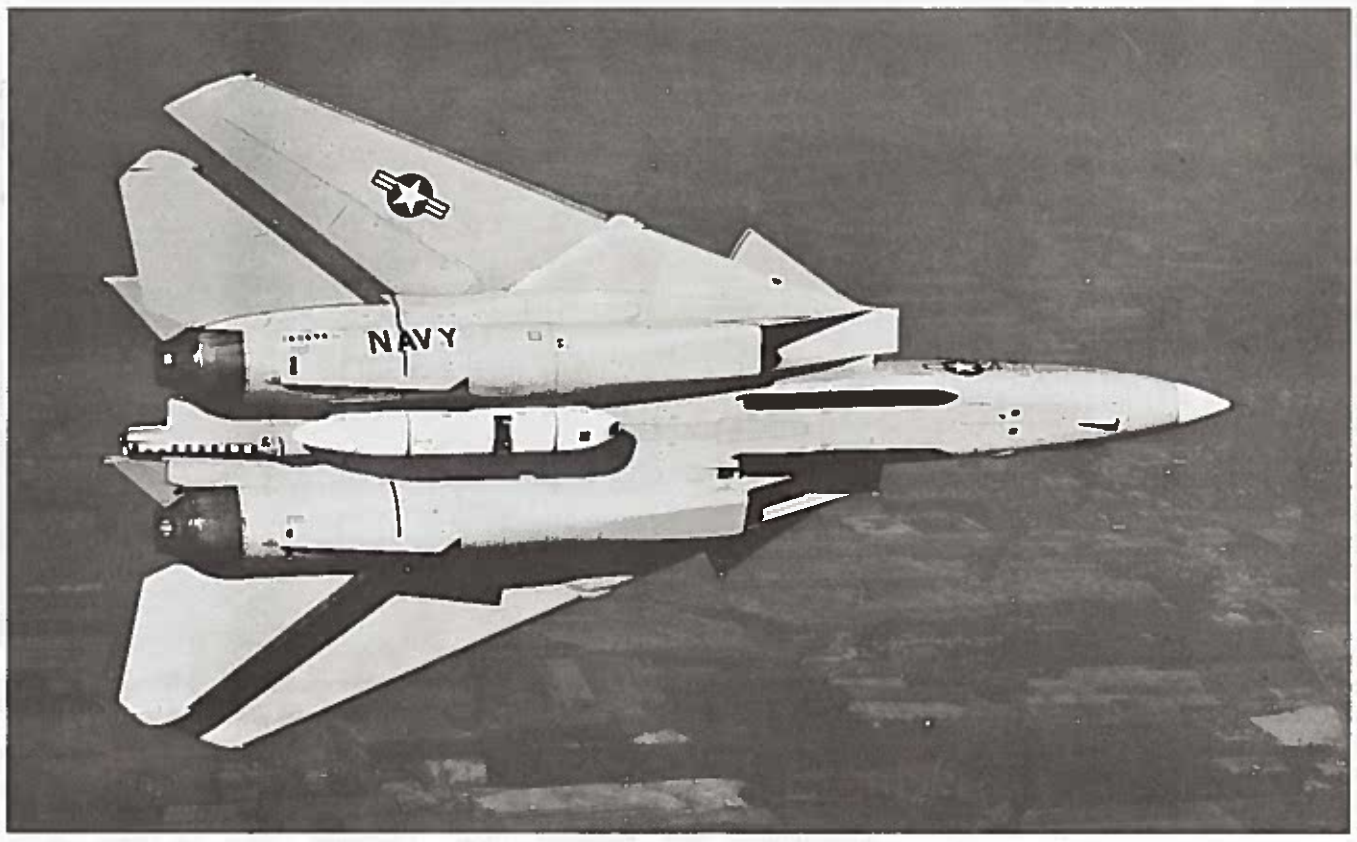


Navy deploys TARPS

Equipped with a Tactical Air Reconnaissance Pod System (TARPS), the Navy/Grumman F-14 Tomcat is currently on its first deployment aboard the *U.S.S. Nimitz* in the Mediterranean.

Designed for a low to medium altitude clear-air-mass reconnaissance role, the TARPS pod contains a KS-87 frame camera, a KA-99 panoramic camera and an AAD-5 infrared line scanner.

The Tomcat has been modified to accommodate pod operation controls in the naval flight officer's cockpit as well as to provide electrical power and air conditioning to the pod.

The F-14 TARPS' maiden deployment is slated to end Sunday, February 7.

Attention, Mfg. scholars

March 15 was Julius Caesar's sad deadline. But it could signal the beginning of a bright new future, for you or your son or daughter because it is the deadline for applications for the Grumman Aerospace Corporation Manufacturing/Technology Scholarship program.

The scholarship is available to Grumman employees and Long Island students who have a two year associate degree in mechanical technology or who have completed the first two years of an engineering curriculum.

Winners receive up to $4,000 a year for tuition and expenses at any college or university which offers an accredited bachelor's degree in manufacturing engineering/technology.

For more information or an application call Fred Neuscheler, Ext. 4425, or contact the Scholarship Office, A10-35.

Personals

I would like to thank all my friends who offered support and sympathy during the recent loss of my wife. **Alexander Gordon**

I would like to thank my co-workers for their thoughtfulness during my stay in the hospital and convalescing at home. **Sal Cusimano**

We wish to express our sincere thanks and deep appreciation for the kind and thoughtful expressions of sympathy during the recent loss of our mother. **Jerry and Lou Minerva**

My family and I would like to express our sincere thanks to everyone for their thoughtfulness and kind expressions of sympathy. **The Wieliczko Family**

Touch of Grumman. *The new Boeing 757 aircraft made its deput on January 13. Grumman builds the spoilers for this new jetliner.*

New generation airliner debuts

Close to 10,000 people witnessed the January 13 rollout of Boeing's newest commercial jetliner, the 757, at Renton, Washington. Under a multi-million dollar agreement, Grumman is building the wing spoilers for Boeing's newest jetliner.

Fuel efficient

Designed to be a replacement for airplanes such as the early versions of the 727 and the DC-9, the 757 twinjet features new technology wings and engines to get the best fuel mileage of any airliner in its class. The short-to-medium range jetliner has a passenger capacity between the 727-200 and the new Boeing 767.

Super light

To save weight, the spoilers for the fuel-efficient 757 aircraft are built from light-weight graphite epoxy material at Grumman's composite facility in Milledgeville, Georgia. Each shipset is made up of 12 individual spoilers which are approximately six feet long. (Spoilers are wing control surfaces which are mounted on the top side of the wing.)

December deliveries

To date, seven airlines have ordered 136 of these new jetliners and taken options for an additional 61. Initial deliveries will be in December of this year.

Meanwhile, the 757 is slated to begin flight testing next month.

Blood drive gets shot in the arm

Lives were hanging by a thread measured in time, a thread 24 hours long. That's how much of a supply of blood there was in the New York metropolitan area just after the new year. Long Island Blood Services put out an urgent call for blood donations and Grummanites responded.

Nearly 500 Grummanites showed to donate blood on January 11 and 12. They gave 381 pints of blood. The people who run the Grumman blood drive had expected to collect about 200.

"It's a tribute to a lot of Grumman people," says Mel Rabinowitz. "Once you tell a Grummanite you've got a problem they want to come right over and help you." Rabinowitz, the director of Business Management and Analysis for Aerospace, is the chairman of the 1982 Grumman Blood Donor program.

He feels that the turnout in Plant 30 was so impressive because of the publicity given to the urgent need for blood in the area — a need created because donations normally drop during holidays. "I had thought that we'd have less than our typical turnout because of the bad weather," Rabinowitz says.

Big turnout. *When the L.I. Blood Services cried for help, nearly 500 Grummanites showed up to donate blood on January 11 and 12 in Plant 30. (Photos by Marie Trimborn)*

'Out of the water'

The average Grumman turnout last year in Bethpage was 45 percent of those scheduled to donate. This month in Plant 30 there were 432 people scheduled. Using those statistics, they expected about 200 people. "Grummanites blew that prediction out of the water," says Dennis McRedmond.

According to McRedmond, the 1982 blood drive program manager, there's been an upswing in blood donations in the last two months. Some 56 percent of those scheduled to donate in December responded. "And in January," says McRedmond, "the Grumman performance was outstanding because of the special appeal."

McRedmond says statistics from past drives have been enlightening. "We learned not to have blood drives on Monday, and we're changing the schedule right now. Past results indicate that people just aren't ready to give blood first thing in the week."

This year, the Grumman blood drive is getting a hand from several retirees who process the paperwork for those who are donating.

Via phone

"They will also come in a couple of days before each drive and conduct a phone campaign," says McRedmond.

It was an idea that worked in January. Retirees Bill Jeffries, Al and Mary Kunkel and Kay Slechter called Grummanites who were scheduled to donate in January and reminded them of their appointments.

The drive got help from others as well. People who park close to Plant 30 donated their parking spots to those who were going to drive over and give blood. In addition, Grumman rented a bus to shuttle donators from Plants 14 and 35 during the December drive.

"We're taking a personal approach," says Rabinowitz. "And with the proven enthusiasm of the Grumman family, we think we'll have excellent results."

Packed house. *Grummanites donated over 380 pints of blood to the Long Island Blood Services last month.*

calendar

AIAA: Wed., Feb. 17, Antun's, Hicksville, 5:30 p.m. Guest speaker will be Dr. Harold Rosenbaum, President HRA Inc. Guests welcome. S. Winkler, Ext. 4420/J. Kohn, Ext. 3772

Alcoholics Anonymous: every Mon., 4:30 p.m., Pl. 15, conference room C, closed meetings; Personnel Relations, Ext. 3521; Calverton: Chemical Dependency Discussion Group, every Mon., 4-5 p.m., Hdg. Bldg.; open meeting. C. Robb, Ext. 117-6526

ASHRAE: Tues., Feb. 9, Hofstra University Club, 6 p.m. Guests welcome. A. Rubenstein, Ext. 2256

C.B.I. Vets: Tues., Feb. 23, Recreation bldg., 5 p.m. R. Fong, Ext. 2484, 8617/W. Pytlowany, Ext. 8616, 8617

Coin Club: (Bethpage) Wed., Feb. 10, Pl. 25, vendor conference rooms, 12:05 p.m. Informal lunchtime meeting. K. Hale, Ext. 1825

Computer Club: Mon. Feb. 1 and Mon., Feb. 22, Recreation bldg., 5 p.m. Beginner to advanced programming of personal computers. Guests welcome. J. Hayne, Ext. 0497/P. Frumkin, Ext. 2797

French Club: Tues., Feb. 9 and Tues., Feb. 23, 19 N. Windhorst Dr., Bethpage, 5:30 p.m. Reading material on current events. Guests welcome. Dr. Louis Kaufmann, Ext. 2323

GACE Flying Club: Mon., Feb. 8, Recreation bldg., 5 p.m. Regular monthly membership meeting. Guests welcome. R. Reisch, Ext. 5967

Grumman Cycle Touring Club: Mon., Feb. 1, Hayes Inn, Bethpage, 4:30 p.m. Guests welcome. T. Beckman, Ext. 8994

Grumman Disabled American Vets: Wed., Feb. 17, Pl. 3 cafeteria, 4 p.m. Members only. T. Melia, Ext. 4750

Klown Klub: Tues., Feb. 9, Recreation bldg., 4:15 p.m. Guests welcome. M. Deyns, Ext. 7564

Motorcycle Club: Wed., Feb. 17, Recreation bldg., 5 p.m. General meeting. Guests welcome. K. Mann, Ext. 1645

Photography Club: Mon., Feb. 8, Recreation bldg., 5 p.m. Guests welcome. R. Sablich, Ext. 115-8332

Professional Secretaries International: Thurs., Feb. 18, Polish Hall, Riverhead, 6:30 p.m. Program will be "Coping with Stress." Monthly dinner meeting. Dinner is $7.00 including tax and gratuity. E.M. Gaias, Ext. 117-7397

Ski Club: Wed., Feb. 3 and Wed., Feb. 17, Tiki Lounge, North Babylon, 8:30 p.m. Guests welcome. A. Garmendia, Ext. 7819/8910

Theater Guild: Tues., Feb. 2, Recreation bldg., 5 p.m. General meeting. Guests welcome. F. Varga, Ext. 3152

Toastmasters: Wed., Feb. 3 and Wed., Feb. 10, Plant 111, Grumman Corp. Hdqtrs., lower concourse. Regular meeting. Grumman employees welcome. C. Peterson, Ext. 4930

obituaries

JOHN J. KOLL of Material and Logistics Mgt. & Staff, Pl. 6, died Jan. 12 at the age of 55. He had been with the company since 1967 and resided at 8 Laura Lane, E. Setauket.

Where are you going?

Would you like to point your career in another direction? There are career development analysts in Personnel who will help you get the most out of your skills and talents through career counseling and appropriate job placement.

The career development analysts are available to Bethpage Grummanites five days a week, by appointment, in Plant 28.

Grummanites in Calverton can talk to Bob Smith on Thursdays in Plant 6 from 8 to 4:30. Donna Andrews is in Plant 40 in Melville on Wednesdays from 8 till noon and Paul Sluiter is in Plant 43 in Great River on Wednesdays from 1 until 4:30.

Call Ext. 6147 to make an appointment.

DC-8 team doesn't miss a beat

STUART, FLORIDA — During this past summer, the DC-8 subcontract program moved its assembly work from Calverton and Bethpage to its new building here. Moving a production line more than 1,500 miles away does have its challenges, but the Grumman team didn't miss a beat.

To date, Stuart Operations has delivered eight assembled powerplants and four pylons for the DC-8 re-engining program — within cost and right on schedule.

Successful pace

Meeting challenges head-on has been the norm since CAMMACORP selected Grumman to build nacelles and pylons for the new DC-8 Super 70 Series back in May 1979. Only 19 months later, Grumman delivered its first shipset. It normally takes at least two to three years to accomplish such a task.

"Grumman's multi-million dollar contract covers nacelles and pylons for 100 airliners and an option for 50 others," says Joe Beattie, CAMMACORP program manager for Grumman. "Since the DC-8 is a four-engined plane, 600 or more nacelles and pylons may be built by Grumman through 1985."

Plenty of work

The company is also under contract to do the engine build-up which entails receiving a production engine, installing the pumps, generators, controls, and other engine accessories. In addition, Grumman manufactures cables, fuel lines, hydraulic lines and high pressure air lines. To this assembled engine is added the nacelle inlet cowl, and exhaust system for a complete powerplant ready for shipment to McDonnell Douglas' facility in Tulsa, Oklahoma.

"To date, we've shipped five-and-a-half shipsets of assembled powerplants and eight shipsets of pylons," says Beattie. "While the new Stuart building was being constructed, Calverton produced the assembled powerplants, and Bethpage built the pylons."

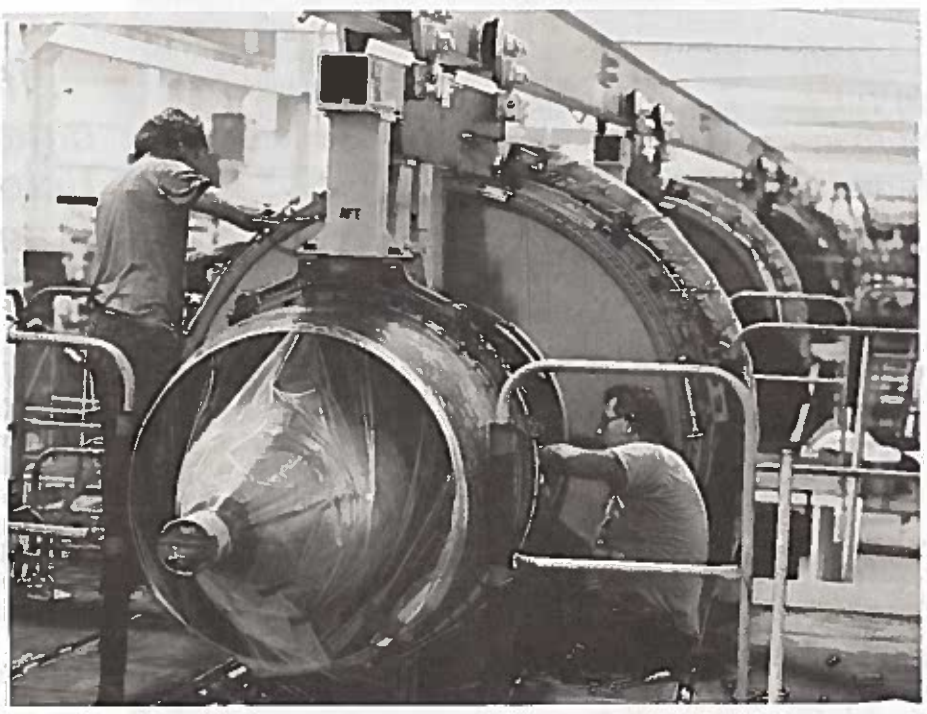
Obviously, transferring a major subcontract job like the CAMMACORP program is not an easy task. "It involves an across-the-board effort," says Bill Brown, program manager at Stuart Operations. "Tooling...Facilities...Planning...suppliers...everybody got involved."

Even when the hardware is in place, there is still the job of making a smooth transition of people. "In April of last year, groups of Stuart people started going to New York to spend a few months working at Calverton and Bethpage," says Brown. "When the work shifted here, a group of New York people came down to supplement our workforce."

Brown attributes much of the program's early success at Stuart to the working relationship between these two groups of Grummanites. "At this early stage, everyone has hands-on experience. Grummanites who've worked in New York are quick to share their expertise with new members of the team. The free flow of information has resulted in a well-prepared team for 1982."

That cadre of experienced people will be a big boost when the schedule picks up this year. Currently, Grumman is delivering an average of two shipsets a month. "By September, we'll be sending three shipsets a month," states Joe Morgan, CAMMACORP operations manager at Stuart. "Our schedule is challenging, but the long hours and exceptional teamwork are paying off for Grumman.

"We've got a profitable program underway here at Stuart. We're on target — both cost-wise and schedule-wise."



Rolling along. *Grummanites work on a huge powerplant for the DC-8 re-engining program as it hangs from a special monorail assembly line in the new Stuart building. (Photos by Fred Annette)*

In plain sight

When you work on a subcontract program, it's sometimes difficult to see your handiwork in the finished product — usually it's hidden in the inner structures of the aircraft.

But the people who work on the CAMMACORP program will have a chance to see their workmanship on the DC-8 Super 70 Series airliners at airports throughout the world.

The Super 70 Series will be outfitted with the new CFM-56 turbo-fan engines, produced jointly by General Electric and SNECMA, a French manufacturer. These new engines are expected to make the DC-8 the quietest four-engined airliner in service, says CAMMACORP, a Los Angeles management corporation which is supplying overall program management.

In addition, the Super 70 will reduce aircraft fuel consumption by as much as 25 percent over present engines — saving up to 1.5 million gallons of fuel per aircraft annually.

Firm orders for the Super 70 now total 92. Options and letters of intent call for an additional 46. This brings the total on order or option to 138 of the 244 stretched DC-8s in service worldwide today.

Pension plan: stayi

In an employee attitude survey conducted by Grumman Aerospace Corporation in 1980, Grummanites ranked their pension plan among the most important of the company's major benefits. A post-retirement income is something most working Americans have come to look for in an employer's benefit package, and at Grumman it's a vital aspect of planning for future financial security.

The investment managers of Grumman's pension plan have acted accordingly. One outside study found that, for the year ending September 30, 1981, the Grumman fund's investments outperformed 92 percent of all institutional plans. And Grumman is one of the very few companies that include any kind of regular cost of living adjustment in their pension plans.

'After security, a good reason for keeping a pension plan fully funded is to be able to improve the plan's benefits from time to time.'

New light shed

But events of last fall focused a new kind of attention on the Grumman Corporation pension plan. In the face of a corporate takeover attempt, Grumman Corporation Chairman Jack Bierwirth warned "Grumman people could lose" if Grumman's fully funded pension plan were merged with a new parent company's underfunded pension plan.

What was at stake? What do "fully funded" and "underfunded" mean? Just how does the pension plan operate?

"In most respects, the Grumman pension plan is like that of any other large, high-quality company," says Grumman Corporation Secretary Bob Bradshaw. "A pension plan is a program set up to make financial payments to employees after retirement. It is kept separate from the company's other operations because it has to set aside money for payments that will be made many decades in the future."

Full-time staff

The pension plan, established in 1943, is run by an employee pension board, whose three members are appointed by the Grumman Corporation board of directors. The pension board oversees administration of the plan and approves pension payments from the plan's assets. A full-time professional staff administers the plan.

The money for pension payments comes from a special pension fund, financed by the company through regular contributions. The fund's assets are invested under the supervision of its trustees, also appointed by Grumman's board of directors. The trustees are responsible for receiving, holding, investing, and reinvesting the fund's assets.

"Those investments enable the company to pay out monthly pensions to over 7,000 Grummanites," says Bradshaw.

Like several other employee benefit programs, the pension plan is operated in compliance with a federal law — the Employee Retirement Security Act of 1974 (ERISA).

Stocks and bonds

Pension funds are invested mainly in stocks and bonds. ERISA permits up to 10 percent of a fund's assets to be invested in the company's own common stock. In October 1981, the trustees increased the fund's investment in Grumman common stock to 1.7 million shares, bringing it to near that allowable limit.

"The plan's anticipated obligations for all future years are calculated well ahead of time," Bradshaw explains, "and an estimate is made of the amount by which the fund will have to be increased in order to meet these future requirements."

"It surely seems that the work force will grow older and more people will live longer after retirement," says Bradshaw, "greatly increasing the number of pensioners to be paid."

Income from the fund's investments covers part of those obligations — usually one third to one half. The balance is made up by direct contributions from the company. Grumman planners have estimated a long-term average annual rate of return on the fund's investment, and schedule the company's contributions on that basis.

'If Grumman's fully funded bined with another company' ticipants might have to look gram for cast-iron security a reassuring idea.'

"If the investments are less profitable one year, the company increases its contribution to make up the difference; if they are more profitable, the company's contribution can be reduced accordingly," says Bradshaw.

'Fully funded'

"Grumman's pension plan is fully funded," Bradshaw points out. "It is managed in such a way that the full amount needed to cover all anticipated vested obligations is always in the fund.

"No matter what happens — even if Grumman

ng strong, healthy

were to close its doors tomorrow — the fund assures that the pensions of everyone already on retirement, and everyone working here now who has a vested interest in the plan will be paid."

Many companies have underfunded pension plans, Bradshaw observes. The annual return on their funds' investments, combined with the companies' own contributions to their funds, are not sufficient to cover the plan's obligations.

"In effect, these companies are gambling that they'll have the money for future pension payments when it comes time to make them," says Bradshaw. "If a company with an underfunded pension plan goes out of business or runs

pension plan were com- underfunded plan, the par- the federal insurance pro- ainst the future . . . not a

into severe financial difficulties, it may not be able to meet its pension obligations."

To provide some protection for the beneficiaries of pension plans, ERISA established a federal pension insurance program in 1976. The insurance is intended to guarantee pension payments in the event a pension plan terminates without enough money to meet its obligations.

"While it will only guarantee coverage up to a statutory maximum, that maximum is currently high enough to cover most pensions now due: $16,568 in 1982," Bradshaw says.

Long term security is an important concern for all pension plan participants, Bradshaw states. "If Grumman's fully funded pension plan were combined with another company's underfunded plan, the participants might have to look to the federal insurance program for their security against the future . . . not a reassuring idea.

"After security, the main reason for keeping a pension plan fully funded is to be able to improve the plan's benefits from time to time," he says.

"A company that has a hard time meeting its plan's minimum funding requirements would have a hard time providing the kinds of improvements Grumman has been able to make — such as its three percent cost of living adjustment, or its improvement to the benefit formula by freezing the FICA base at $22,900, to name just two."

Lawsuit update

When the Grumman pension fund's trustees purchased Grumman stock last fall, the U.S. Department of Labor sued them, charging they'd violated their responsibilities to the pension plan.

Voice disagreement

Most Grummanites disagreed. Over 18,000 of them signed a petition supporting the trustees' action, and several formally intervened in the court hearings on the trustees' behalf.

In December, U.S. District Court Judge Jacob Mishler ruled that company officers and directors could serve as trustees, even after a tender offer is made.

But on January 11, on the issue of the prudence of the trustees' October investment decision, he decided in favor of the Labor Department. He prohibited the trustees from buying or selling Grumman stock for the pension fund until the case is resolved, and provided for a temporary investment manager to be appointed from outside the company to manage the fund's Grumman stock, in place of the current trustees.

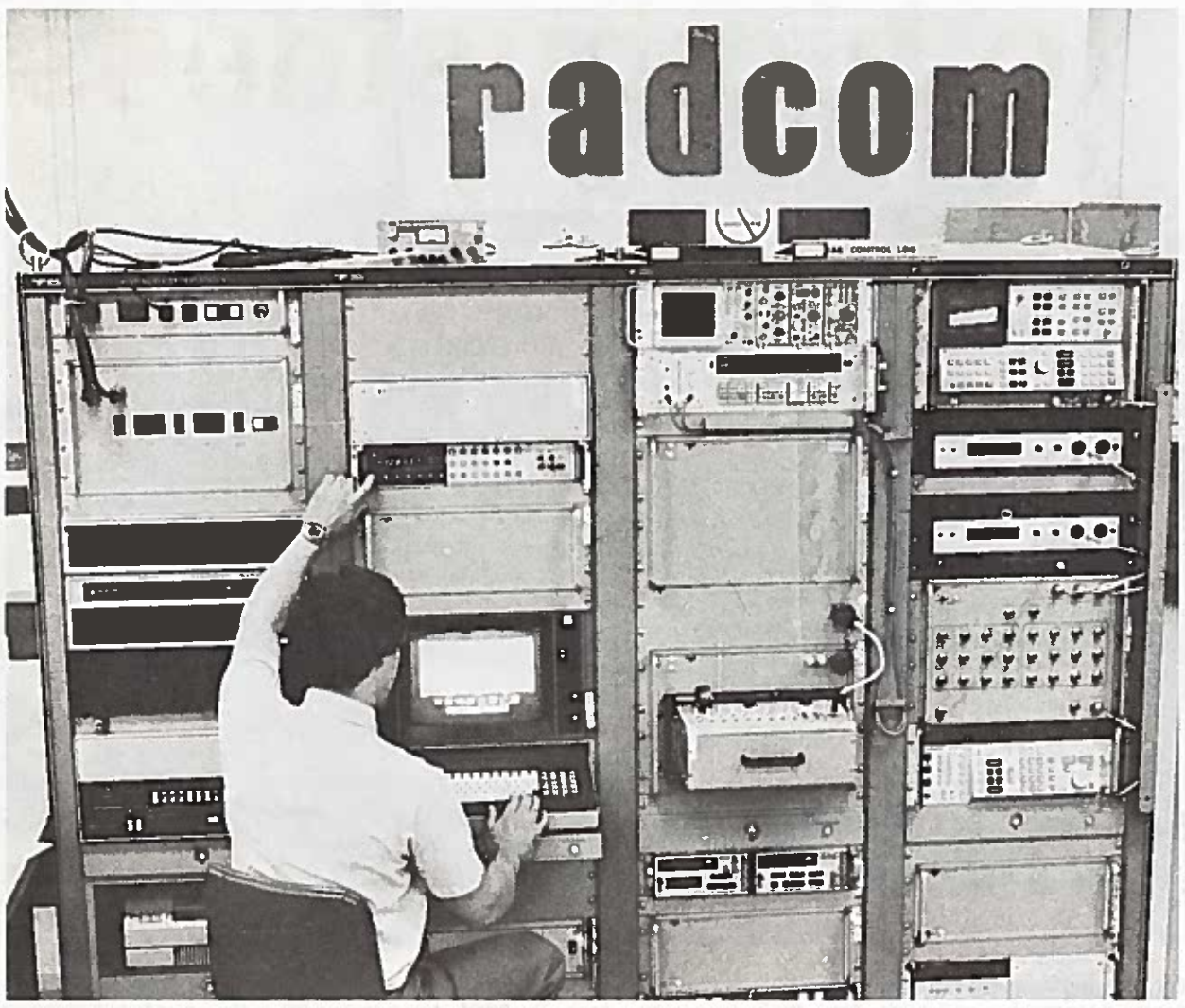
However, Judge Mishler's order says the appointment of an outside manager will be postponed until the appeal is decided.

Almost immediately, Grumman announced it would appeal the ruling to a higher court.

The case is expected to be complex and controversial. The appointment of an outside investment manager to manage only a portion of the pension fund's assets is unprecedented, and the ultimate ruling in this case could affect private pension plans throughout the U.S.

. . . the ultimate ruling in this case could affect private pension plans throughout the U.S.

The current trustees of Grumman's pension fund are Grumman Corporation chairman Jack Bierwirth; Bob Freese, senior vice president and treasurer; and Carl Paladino, Grumman Aerospace senior vice president and treasurer.



Testers

Grumman

Today at Grumman, when you're talking about "product lines" and "modularity" and "electronics" you're talking about Automatic Test Equipment (ATE). Twenty-five years ago ATE didn't exist. Today, it's big business.

How big? Last month Grumman Aerospace teamed with the Boeing Military Airplane Company and Rockwell International to bid on an Air Force contract. This contract, to build the F/FB-111 Avionic Intermediate Shop replacement program, has been estimated to be worth a half billion dollars. The contract winner will be announced this summer and first deliveries would be made in late 1984.

"It's going to be a fierce competition," says Ed Stroud, the manager of ATE Systems. "But the automatic test equipment we presently supply for the Air Force/Grumman EF-111A is our entrée into that marketplace."

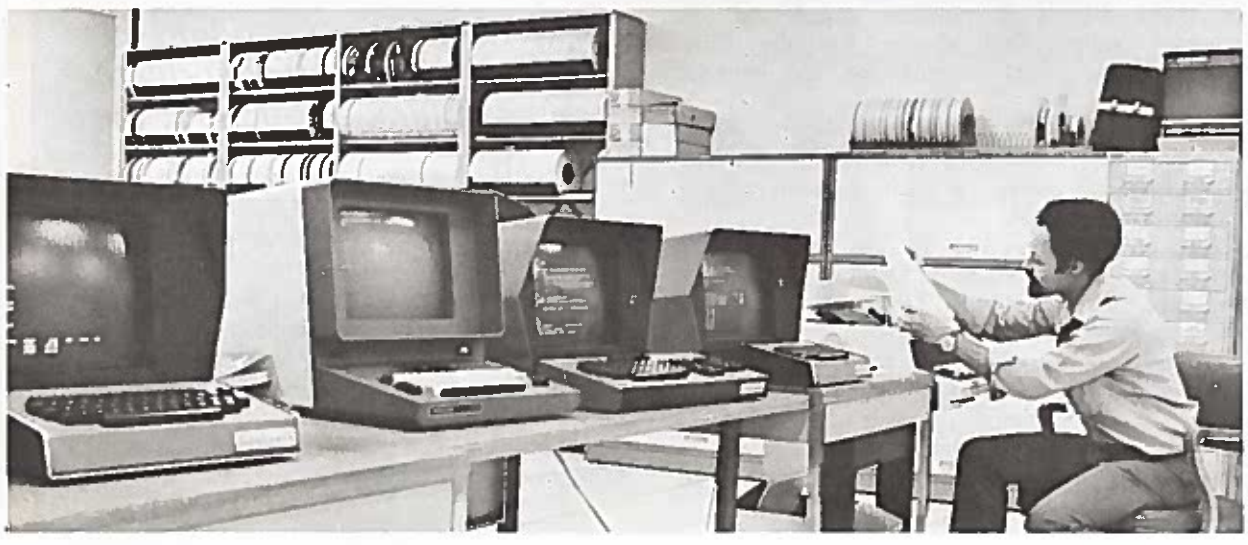
Also, in January of this year, Grumman Aerospace was awarded one of five, two-year study contracts to define the requirements for what the Navy calls the Consolidated Support System (CSS). It will be the Navy's basic aircraft and shipboard support system for the 1990s and will ultimately replace the existing generation of automatic test equipment.

Grumman, the prime contractor on the F/FB-111 bid, was a pioneer in the use of automatic test equipment. It had to develop such equipment to support the sophisticated A-6s and E-2s it was building for the Navy in the early '60s. Today, ATE Systems is a very successful member of the Integrated Logistics Support (ILS) family. This member of the ILS family works in Plant 31 in Bethpage.

The 180 Grummanites who work in Plant 31 design and develop their special breed of modular electronic gear to test the complex avionics — "black boxes" — aboard Grumman-built and other aircraft.

Using one of their testers, a technician merely has to pull one of the black boxes from an aircraft, connect it to the tester, insert the proper computer program for the test and let it run. He can then follow the progress of the tester on its television-like screen. The tester will locate every fault in the system.

Building on success. *What Dan Ritt (above) is checking out is the newest member of the family of Computerized Automatic Testers: RADCOM. It's built to check out the radar communications gear aboard the Grumman E-2C. The* U.S.S. Carl Vinson *will get the first unit Grumman delivered. The first unit (Photo R) in the product line developed by ATE Systems is the CAT-III D, which has since become the Navy's standard digital tester. Bill Lindenfelser and Les Birman are working with this configuration, of which more than 30 have been delivered. Jimmie Hawkins (below) is a computer operator in Plant 31. There, the computer programs needed to test given pieces of electronic hardware are developed.*



Not long ago

Automatic test equipment has evolved over the past two decades. In the 1950s, technicians tested electronic equipment by hand, using voltmeters and oscilloscopes.

Automation was introduced in the early '60s with the Semi-Automatic Checkout Equipment (SACE). SACE shortened checkout times for A-6A and E-2A equipment dramatically.

As specialized testers such as SACE became widespread, the military began looking for general purpose testers to cut costs.

Grumman responded, says Stroud, by developing the present Computerized Automatic Tester (CAT) product line. "We started with a digital machine and with a product line that featured the extensive use of off-the-shelf equipment to keep cost low and bring down the development time of testers," says Stroud.

stack up to big business

has the automatic testers for today's avionics

"That first machine, the CAT-IIID, is now the Navy's standard digital automatic tester."

The success of the CATs is due to their modularity, which makes them easy to reconfigure for testing different electronic systems.

What modularity means is that ATE starts with a line of basic electronic components-colorgraphic display terminals, signal analyzers, digital word generators and other electronic components.

When a customer has a need for a tester, the hardware and software engineers in Plant 31 can design one based on those electronic components. They also design the computer programs — software — needed to perform the tests.

But the CAT family is designed in such a way that, in most cases, customers can choose one of the CAT systems now in production in Plants 43 and 44 in Great River. They cover all of the electronic technologies from DC power to microwaves.

Next generation

The latest addition to the CAT product line is the RADCOM test station. It was developed to test the radar and communications gear aboard the E-2C. The whole project from design through first delivery, says Stroud, took less than a year.

There are firm orders for 19 RADCOMs and it has applications to many other programs.

The electronics world, however, changes almost as fast as the pages of the calendar. "We think we have a darn good approach right now," says Charles Esposito, the head of the ATE engineering section, "but the technology moves rapidly. We're channelling all of our in-house development money into defining future generations of automatic test equipment. They'll be far different from present systems. Whole instrument functions may be performed by a single circuit card."

As with past ATE work, their future efforts will be aimed first at providing the best possible support for Grumman aircraft. But also, because ATE builds a profitable product line as well, the ATE Systems group is looking to penetrate new markets with major emphasis early this year on winning the F/FB-111 contract.

Only three years ago, Grumman won a contract to supply the Navy Electronics Systems Command with CATs to support shipborne electronics. Until then Grumman had never had a contract with the Command and a large potential exists for the systems, according to Stroud.

Stroud points out that other markets open to Grumman are in the commercial world as subcontractor to other prime contractors. Grumman presently supplies automatic test equipment to General Electric, Sylvania and LTV for their military contracts.

"We expect to be the number-one ATE house in the country," says Stroud. "In the Grumman tradition we've got a quality product — and we can sell it at a very competitive price."

***Where it's at.** Don Hiestand works with airmen who are using Grumman automatic test equipment. Grumman builds CAT-type test equipment for the EF-111A.*

Support has a starring role

While the word "Grumman" doesn't contain the letters I-L-S, the balance sheet of the Grumman Aerospace Corporation certainly does. One quarter of Aerospace's annual sales are for products made by Integrated Logistics Support (ILS).

But, what is ILS?

"It's three different things," explains Harry Kline, the Director of ILS. "First, our mission is to totally support all Aerospace products. Second, we have a responsibility to develop our own ILS products, such as ground support equipment, spare parts and publications. And then, we also support the manufacturing operations."

There are about 5,000 people in Grumman Aerospace who work on ILS-related projects. About 950 of them are engineers permanently assigned to ILS. There are people in quality control and manufacturing; even the Field Service reps are indirectly connected to ILS.

ILS works closely with the aircraft programs so that, as Kline says, "We can make our aircraft easy to maintain and repair so they always have a high mission capability."

Each program has an ILS manager whose job is to make sure that the commodities and service needed to support that aircraft are developed. People from ILS are assigned to a project during the preliminary design phase and continue on the program long after the program is out of production.

"Support is a very complex business; a tough business," says Kline. ILS handles more than 7,000 orders each year, representing over a million individual items.

But the complexity goes beyond that, he feels. "If you write a publication, for example, you must write it for the level of the person who is going to use it. It's got to describe exactly what that person needs to know. This is a very hard thing to do."

***'A complex business.'** Harry Kline is the director of ILS. From providing publications to testers and much, much more, the people of ILS 'keep 'em flying.'*

The concept that an aircraft manufacturer should develop and market support equipment for its own aircraft is still fairly new, Kline explains. "This idea goes back to 1964, when we formed the Product Support Department. We did that because we had the two most complex aircraft in the Navy: the A-6 and the E-2."

The Navy learned from the carrier trials that its sophisticated A-6A was great in the air — but that its electronic gear was tough to repair. The Navy depended too much on Grumman's service reps to find the problems. They needed new equipment that would allow their technicians to repair the plane's electronic gear quickly.

Ed Dalva, now vice president and general manager of Stuart Operations, was given the job of developing support and test equipment as sophisticated as the black boxes which had to be tested. He took a group from engineering, which worked on test equipment for the Navy, and another from manufacturing, which had been building factory test equipment for Grumman, put them together and went to work.

"We've come a long way since then," says Kline.

J. Donovan

W. Budd

H. Healy

R. Feinman

W. Blazejewski

D. Swezey

A. Schreyer

J. Boccuzi

R. Box

G. Baker

L. Oliveira

W. Fraser

W. Despagni

H. Hammond

R. Dee

R. Andrews

J. Falco

W. Gandley

service milestones

40

Ralph J. Marro, Drop Hammer (2)
John W. Squier, Sub Assy. (2)
Frank V. Kaprinski, Honeycomb Core Details (3)
Charles R. Thomas, Forming Heat Treat & CM (3)
Donald R. Burden, Business Mgmt & Admin. (4)
Henry E. Dummeyer, Hydraulics (14)
John I. Patton, Dept. Ops. M/S (35)

35

Frank B. Pennino, Alodine (2)
Anthony F. Campagne, Mech. Struct & Assy. (43)
Lester H. Whaley, Invent. Mgt. (44)

30

Charles Blazeyewski, Small Parts Fab. (2)
John R. Russ, Jigs & Fixtures (2)
Edward B. Maguire, Machine Shop (2)
Henry F. Hauser, Jigs & Fixtures (2)
John Tylinski, Maint-Rearrangement (2)
Albert Kost Jr., Tool Fab. M/S (2)
Carl Gianino, Tool Fab. M/S (2)
Daniel F. Schirmer, Center Section-Final (3)
George E. Rochedieu, BPA Mach. Parts Insp. (3)
Raymond G. Miller, Airport Ops (4)
Stefan Gapinski, Static Test (5)
Harold Weigner, Instr. Test (5)
Rudolf P. Altmann, Machine Shop (6)
John L. Rannov, Jigs, Details & Sub-Assy. (6)
Andrew J. Reder, Cntrl. Ship. Handl. (17)
Alfred J. Monahan, Cntrl. Ship. Handl. (17)
Walter Kerupetski, Trans-Ops. (20)
Arthur W. Cooley, Est. Resources (30)
Joan M. Shannon, Info. Rec & Serv. (35)
Lester R. Picardi, Sys. & Cntrl. (35)
Richard Aiello, Admin. Staff (35)
Ralph E. Guion, Optic & Display Equip. Des. (40)
Paul B. Cooper, Supp. Cntrl. (87)

25

Michael Keda, Fuselage Assy. (1)
John M. Donovan, Tech. Reqt. (1)
Walter J. Budd, Insp-Mech. (1)
Howard A. Healy, Employee Servs. (1)
Robert L. Feinman, Wing Inner Panel & Combo (2)
Walter Blazejewski, Fuselage Joining (2)
William W. Williams, Hull Assy. (2)
Edward F. Hilbert, Hull Assy. (2)
Donald L. Swezey, Clean & Descaling (2)
Alvin E. Schreyer, EBW-Final Assy. (2)
Joseph H. Boccuzi, Cntrl. Storage & Ret. (2)
Robert E. Box, Maint-Rearrangement (2)
George H. Baker, Maint-Rearrangement (2)
Louis Oliveira, Maint-Facil. Equip & Gen. (2)
William T. Fraser, Camera Graphics (2)
William Despagni, Insp-Mech. (2)
Haywood T. Hammond, Employee Servs. (2)
Robert Dee, Spotweld (3)
Robert C. Andrews, Honeycomb Prep. (3)
Joseph Falco, Prod. Superv. (3)
William Gandley, Prod. Superv. (3)
John Miller Jr., Prod. Cntl-Parts Cntl. (3)
Anton L. Eser, Trans-Ops. (3)
Robert J. Cardinale, Out-of-Prod. Spares (4)
Robert D'Angio, Insp-Mech. (4)
Jerome W. Barlow, Flt. Transport (4)
Friedrich R. Wilms, Envir. Cntrl. Des. (5)
William J. Tebo, Business Dev. M/S (5)
Stanley J. Domagala, Prod. Commodity Est. (5)
Carmine N. DiMare, Instr. Test (6)
John D. Gazzola, Prod. M/S (6)
Philip Dressel, Matl. Coord. (6)
Robert J. Kobus, Assy. Methods & Plnng. (6)
Robert W. Thompson, Machine Shop (6)
John J. Morgan, Elect. & Mech. ILS Supp. (6)
James M. Minicozzi, Corp. Instr. Sys. (7)
Joseph F. Kessler, Maint-Rearrangement (14)
Vincent F. Fiust, Repro Servs. (15)
Helene G. Stone, Sec. & Pers. Serv. Mgmt. (18)
Alice G. Kehoe, Financial Cntrl. Prog. (25)
Charles B. Cook, Aerodynamics Staff (25)
Edwin Lerner, Struct. Mechs. (25)
Frances E. Zuk, Procurement Servs. (30)
John J. King, Subcontractor Surveil. (30)
Kathleen Wolfe, Commun. Admin. & Staff (30)
Dominick M. Cutalo, Matls. Accounting (30)
Marion Groll, Invoice Audit. (30)
Walter Besendorfer, Fatigue & Fracture (35)
Paul Ratner, Computer Tech. Dev. (35)
Ronald C. Braun, Spc. Proj. Prototype-Temp. (43)
Joseph T. Hogan, Prod. Supv-Tem. (44)
Eardley G. Westmorland, ILS Sys. Concepts (47)
Michael Tama, Maint-Admin. (56)
Frank J. Pauly, St. Augustine (65)
George J. Wagner, E-2C Wings/F-14 Weapons (77)
Paul K. Barry, F-14 AFT Sect. Assy. (77)
Henry C. Hering, Matl. Mgmt. (77)
Joseph E. German, Prog. Mgmt. (86)
Howard T. Holland, Grumman Houston Corp. (52)

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George V. Wagner Jr., Prototype (2)
Aaron Dean, Assemblies (3)
William E. Sullenger, Flt. Avionics (4)
William R. Hall, Instr. Test (5)
Salvatore P. Migliore, Sys. Eng. M/S (5)
Kenneth F. Keen, Business Mgmt & Anal. (5)
Francis W. Kratochvil, Business Mgmt & Anal. (5)
Richard R. Miller, Corp. Instr. Sys. (7)
Constance Perillo, Aero-Struc. Subcontr. (9)
Sabatino T. Donatone, Meas. Stds. (12)
Phillip Dunn, Simulation (14)
Marilyn K. Logue, Repro Servs. (15)
Rosario Calabrese, ILS Tech. Writ. (15)
Harman Rigby, ILS Tech. Illus. (15)
Thomas R. Cassino, Supp. Syst. (15)
Sergei N. Camp, ILS Sub-Syst. Eng. (25)
Alois T. Beck, Optic & Display Equip. Des. (25)
John Debeny, Pricing & Anal. (30)
Albert L. Como, ILS Elect. Pack. (35)
Robert H. Pargmann, Indust. Safety/Hygiene (35)
Kenneth G. Leib, Sys. Sciences (35)
Joseph M. Abbondola, Operations (35)
Harold Halvorsen, Specifications (35)
Joseph J. Sena Jr., ILS Equip. Des. Eng. (40)
Mary E. Hutter, Medical (40)
William J. Cross, Config. Data Mgmt. (40)
Harvey Wapner, Config. Data Mgmt. (40)
Leopold R. Brecht Jr., ILS Tech. Servs. (47)
Stephen H. Lowe, ILS Equip. Des. Eng. (47)
Myron J. Bennett, Newport Beach (71)
George C. Rowe Jr., Production (88)

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Robert M. Harvey, Mfg. Admin/Business Mgt. MS (2)
Nathaniel Melvin, Food Service (2)
John P. Lane, Convent. Machs. (3)
Donald H. Weeks, Convent. Machs. (3)
Susan Swicicki, Convent. Machs. (3)
David P. Supinski, Convent. Machs. (3)
Robert B. Barnes, Convent. Machs. (3)
Maurice S. Morro, Convent. Machs. (3)
Archie R. Windsor, Maint-Rearrangement (3)
James H. Clarke, Maint-Facil. Equip & Gen-Sub. (3)
Charles E. Jappen, Food Service (3)
Samuel Hardy, Q.C. Inspect. Plnng. (3)
James W. Cox, Sys. Test/Flt. Integ. (14)
Russell B. Barclay, Presentations Servs. (5)
Robert H. Cantrell, Operations (5)
George F. Duffy, Ops. Analysis (5)
Alice B. Ferrara, Cost Tech. Dev. (5)
Charles H. Tyler, Elect. Bench Assy. (6)
Frank Cincotta, Automat. Circuit Anal. ILS (6)
Louis A. Pizzanelli, Measurement Stnds. (6)
Michael W. Conolly, Computer Design (14)
Raymond A. Matura, Repro Servs. (15)
Frederick J. Cacace, ILS Production (15)
Anthony S. Ryback, Mfg. Sys/Doc. (25)
Robert C. Phear, Sys. Cost/Perform Anal. (25)
William A. White, Pricing & Anal. (30)
Robert Simon, Corp. Proc. Ops. M/S (30)
Naomi J. Adams, Food Servs. (30)
Norman S. Farley, Gen. Acct. (30)
Robert Hong, S/W Sys. Anal/Des. (35)
Walter G. Kucharski, Sys & Control (35)
John A. Oberg, Standards (35)
Kenneth J. McDonough, Q.C. Quality Eng. (35)
Paul W. Weitz, ILS Sub-Sys. Eng. (40)
Charles W. Hanemann, Mech. Detail & Fin. (43)
Gus F. Sclafani, GSE Scheduling (43)
Howard L. Rooney, Maint-Rearrangement (44)

R. D'Angio | J. Barlow | F. Wilms | W. Tebo | S. Domagala | J. Gazzola | R. Kobus | R. Thompson | J. Morgan

J. Minicozzi | J. Kessler | V. Fiust | H. Stone | A. Kehoe | C. Cook | E. Lerner | J. King | K. Wolfe

D. Cutalo | M. Groll | M. Tama | F. Pauly | G. Wagner | P. Barry | H. Hering | H. Holland

Foster R. Miller, Avionics Purchasing (44)
Richard G. Bereis, ILS Auto Circuit Anal. (47)
Paul F. Causey, Jr., Mach. Ops. M/S (56)
Homer H. Allison, M/S (56)
Helen R. Malachowski, M/S (56)
Charles E. Belcher, Inspection (56)
Warren J. Barth, Inspection (56)
John G. Sims, Inspection (56)
Herbert M. Emge, Mgmt & Control (56)
John J. Nussle III, Mgmt & Control (56)
Justice S. Letts, Mgmt & Control (56)
Edward W. Fontz, Machine Shop (56)
Richard M. Mechalske Jr., Machine Shop (56)
William D. Boehmer, Machine Shop (56)
William M. Cantler, Machine Shop (56)
John F. Dowell, Machine Shop (56)
Mack D. Bowles, Machine Shop (56)
Gaylord E. Gibson, Machine Shop (56)
Harold E. Boyette, Machine Shop (56)
Donald C. Schumacher, Machine Shop (56)
Glen Riley Jr., Machine Shop (56)
William F. Raspe, Machine Shop (56)
Frederick N. Kief, Machine Shop (56)
Daniel M. Rutherford, Machine Shop (56)
Paul T. Knight, Machine Shop (56)
James E. Rutledge Sr., Machine Shop (56)
Andrew J. Kleinsorgen, Machine Shop (56)
Donald E. Lawson, Machine Shop (56)
Robert Barkman, Machine Shop (56)
Jesse B. Lambert, Machine Shop (56)
James L. Harper, Machine Shop (56)
John E. Curtin, Machine Shop (56)
Willard A. Rutherford, Machine Shop (56)
William L. Horney, Maint. Admin. (56)
William R. Hanlin, Maint. Admin. (56)
Edwin E. Campbell, Maint. Admin. (56)
Basil P. Leftheris, Fluid Dynamics (72)
Gary L. Maxwell, Power Plant (77)
John A. Miller, Aircraft Avionic Sys. (79)

●

Footnote. Forty years ago this month, *Plane News* reported that 30 British/Grumman Martlets (F4F-3A) "outclassed" the German Messerschmidt 109s in battle over the Libyan desert. British fliers fondly called the plane "Flying Peanuts" — because of its silhouette.

Table tennis tournaments get underway February 22

Table tennis enthusiasts are invited to participate in the annual Grumman Recreation tournaments. Individual tourneys will be conducted at Bethpage, Great River, and Calverton.

Take your pick

At Bethpage, there are eight divisions of play: four singles and four doubles events. Men may enter one of the A, B, or C divisions in both singles and doubles categories. They may also play in mixed doubles competition as a second doubles event.

Women may play in any or all of the following events: women's singles, mixed doubles, one A, B, or C division singles, and one A, B, or C division doubles.

Tougher competition

Players who won trophies in their last Grumman table tennis tournament must advance into the next higher division this year. Players who did not win in 1981 may enter the same division or drop into the next lower one.

Grummanites can always elect to play in higher divisions, if they prefer.

Bethpage tourney play is at lunchtime in the Recreation building on South Oyster Bay Rd; singles events start Monday, February 22. For more information on the Bethpage tourneys, call Fred Danner, Ext. 2257 or Herb Mahoney, Ext. 2133.

Bethpage contestants should fill out the entry form on this page and mail it to Recreation A01-28A, no later than February 12. Those playing at other Long Island facilities should mail their entry forms to their respective tourney directors: *Calverton Operations* — Ernie Maggi, A17-06, Ext. 6772; and *Great River Operations* — Bob Albert, A16-43, Ext. 7956. Only A and B divisions will be played at these operational centers.

All entry forms should be returned no later than Friday, February 12.

Table tennis tournaments

Entry form

Name ..... Mail Station ..... Pl .....
Ext ..... Shift: Day ..... Night .....

Singles. ☐ A ☐ B ☐ C ☐ Women
(Men check one only. Women may enter women's event and one other.)

Doubles: ☐ A ☐ B ☐ C ☐ Mixed
(All players may enter one division plus the Mixed event.)

Doubles partners: A, B, or C Name ..... Ext .....
Mixed Name ..... Ext .....

☐ I wish to enter doubles but need a partner.

Deadline: February 12

Pocket billiards tourney

Name ..... Ext.....

Perm. No. ..... Mail Stop .....

Sign up by Feb. 10 for billiards tourney

Headlining Recreation's winter tournaments this year is the 21st annual pocket billiards tourney.

Grummanites interested in participating should fill out the accompanying entry form and mail it to Recreation, A01-28A, no later than February 10, 1982.

The competition will take place at the House of Lords billiard parlor on South Oyster Bay Road in Hicksville. The tournament starts Thursday, February 18, at 5 p.m.

In the early rounds, the play will consist of a 75-point game with single elimination. When the competition is narrowed down to four players, 100-point games will be played with double elimination.

If you enter the pocket billiards tournament, you must check in with Mike Cherry of Recreation on the first evening of play.

For more information, call Recreation, Ext. 2133.

Looking for a few good women

While the Northeast is in a deep freeze, preparations for the approaching 1982 softball season are underway.

The women's varsity softball team is looking for players. "Every position is open," says team manager Ken Kretschman. To be eligible, a candidate must be a full-time employee.

All interested women must fill in the application form on this page and mail it to: Ken Kretschman, A09-15, by Friday, February 5.

An organizational meeting will be held on February 12 at 5:30 p.m. in the Plant 15 buffeteria.

Women's varsity softball

Name .....

Perm. No. ..... Mail Stop ..... Ext. .....

Mail to: K. Kretschman, A09-15

scorecard

Westward bound

Recreation is arranging for a trip to California this coming summer, July 10-24.

Prices range from $1,299 per person for double room occupancy to $1,599 for single room occupancy.

Included in the package are: all accommodations at San Francisco, Lake Tahoe, Fresno, San Simeon, Los Angeles, and San Diego; round-trip jet transportation; all bus transportation; sightseeing tours at some sites; and hotel and airport taxes.

Sign up for this California vacation on Tuesday, March 2, at 5:30 p.m. in the Recreation building, Plant 28A. A $100 deposit per person is required at this time.

Aloha, Hawaii

If the Hawaiian islands have been calling you, Recreation has a super trip for you. This Grumman vacation begins August 24 and ends September 8.

The cost is based on occupancy per room: $1,750 for single; $1,199 for double; and $1,126 for triple. Included are: round-trip transportation via United Airlines; all bus transportation; seven nights at Honolulu's Hyatt Regency; four nights in Maui at the Hyatt Regency; three nights at the Kona Hilton; all taxes and service charges. A special option is available if you wish three nights accommodations in Kauai at the Kauai Surf Hotel for an additional $99. (Your stay in Waikiki would only be four nights if you select this option.)

Registration for this Hawaiian vacation takes place on Tuesday, March 9, at 5:30 p.m. in Plant 28A. A deposit of $100 is required at this time. For more information, call Recreation, Ext. 2133.

Hockey team tryouts

Grumman's ice hockey team, the Tomcats, will be holding tryouts for the new 1982-83 Industrial League season in February.

The season consists of a 25-game regular season and playoffs (each team will be in the preliminary round).

The Tomcats are looking for new members — especially goaltenders. If you are a full-time employee and are interested in trying out for the team, contact Don White, Ext. 9364; Theo Monahos, Ext. 1630; or Ron Stoever, Ext. 9747.

Curtain's going up

The Grumman Theatre Guild is presenting Neil Simon's "The Last of the Red Hot Lovers" on January 29 and 30 and February 5 and 6. The curtain goes up at 8 p.m. at the John F. Kennedy Junior High School in Bethpage.

For tickets, call Recreation, Ext. 2133 or 2269.

Islander tix

The Recreation Department has N.Y. Islander tickets — at a discount — for these games: February 6 — Pittsburgh; March 2 — Calgary; and March 27 — Hartford. Admission is $11 per person. For more info, call Ext. 2133 or 2269.

GRUMMAN plane news

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